



# MURANG'A UNIVERSITY COLLEGE

(A Constituent College of Jomo Kenyatta University of Agriculture and Technology)

University Examinations 2015/2016 Academic Year

SCHOOL OF BUSINESS AND ECONOMICS

**SPECIAL/SUPPLEMENTARY SEMESTER EXAMINATION FOR THE DEGREE OF  
BACHELOR OF BUSINESS INFORMATION TECHNOLOGY**

**HBT 2305 : OBJECT ORIENTED ANALYSIS AND DESIGN**

**TIME 2 HOURS**

**MAIN CAMPUS**

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*Instructions: Answer Question 1 and Any Other Two.*

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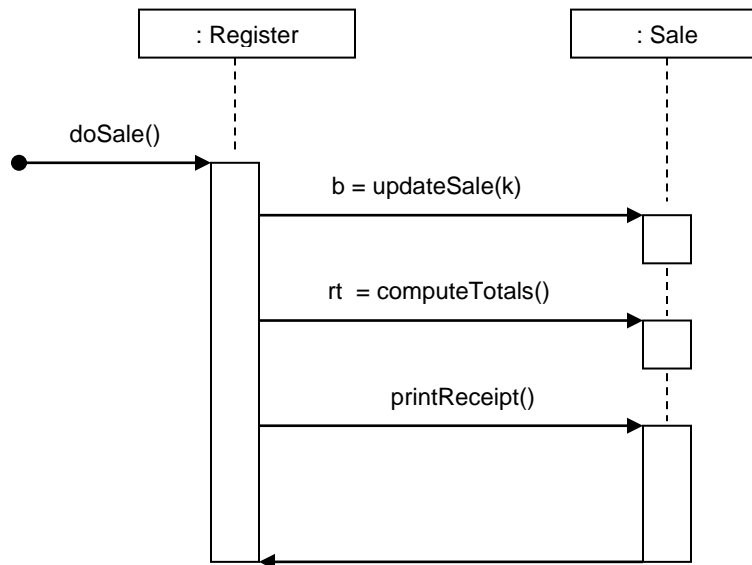
## Question 1

- a) i) What do you understand by the term process? (2 marks)
- ii) What role does the UML play in an OO development process? Is the UML the process itself? (7 marks)
- b) Objects are said to have both state and behaviour. Explain what is meant by these terms? (5 marks)
- c) Name and describe the UML modeling elements in class diagrams (6 marks)
- d) What is a use case? (2 marks)
- e) Identify the primary modelling elements appearing in a use-case diagram and provide a short explanation for each. Does the actor always represent a human user? If not, then give examples of what the actor might represent. (8 marks)

## Question 2

- a) i) Why are UML Interaction diagrams important? Explain. (5 marks)
- ii) Clearly distinguish collaboration and a sequence diagram. (7 marks)

b) Examine the following sequence diagram and answer the questions that follow:



c) Briefly explain what is happening in the sequence diagram above. (8 marks)

### Question 3

- Briefly distinguish between the terms Object Oriented Analysis and Object Oriented Design. As you distinguish clearly bring out the emphasis of each activity. (8 marks)
- How is the meaning of a class different in different perspectives? Discuss (6 marks)
- What are the major elements that make up a sequence diagram? Outline. (6 marks)

### Question 4

- Describe the steps you would take to build a collaboration diagram. (8mks)
- Describe the following relationships
  - Composition
  - Inheritance
  - Generalization
  - Dependency (8mks)
- Give a suitable example of each of the relationships you have described above. (4mks)

